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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,631	03/29/2004	Hitoshi Miwa	501.35478CX22	9877
20457	7590	09/21/2004		
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			EXAMINER TRAN, MICHAEL THANH	
			ART UNIT 2818	PAPER NUMBER

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/810,631

Applicant(s)

MIWA ET AL.

Examiner

Michael t Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-15 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 08/860,793.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 032904.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. In response to the Communications dated March 29, 2004, claims 1-15 are active in this application.

Foreign Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a) (d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement filed March 29, 2004 has been considered.

Claim Objections

4. Claims 3-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

It appears that the dependency of claim 5 should be directed to claim 4.

Claim Rejections – 35 U.S.C. § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 1 and 2 are rejected under 35 U.S.C 102(b) as being anticipated by Nakai et al. [U.S. Patent #5,297,029].

With respect to claim 1, Nakai et al. disclose a nonvolatile memory apparatus comprising: a plurality of terminals including a clock terminal [NRE], a command terminal [at the command register – this being interpreted as a buffer] and other terminal [I/O terminal]; a first buffer [I/O buffer]; a second buffer [command register]; and a plurality of nonvolatile memory cells [MEMORY CELL ARRAY], wherein said clock terminal receives a clock signal, wherein said command terminal couples to said second buffer and receives commands which include a read command and a program command [via bus leading to I/O buffer], wherein said first buffer is used for receiving data from outside of said nonvolatile memory apparatus and is used for outputting data to outside of said nonvolatile memory apparatus, wherein in an operation in response to said read command received from said command terminal, said nonvolatile memory apparatus reads data from ones of said nonvolatile memory cells, stores read data to said first buffer, and outputs said read data stored in said first buffer to outside of said

nonvolatile memory apparatus via said other terminal not said command terminal in response to said clock signal, and wherein in an operation in response to said program command, said nonvolatile memory apparatus receives data from outside of said nonvolatile memory apparatus via said other terminal not said command terminal in response to said clock signal, stores received data to said first buffer and writes said received data stored in said first buffer to ones of said nonvolatile memory cells. See columns 7-12.

With respect to claim 2, Nakai et al. further disclose a decode circuit [command decoder], wherein said decode circuit decodes said commands received in said second buffer.

Allowable Subject Matter

7. Claims 9-15 are allowable over the prior art of record.

8. The following is an Examiner's statement of reasons for the indication of allowable subject matter: the prior art of records does not show (in addition to the other elements in the claim) the following:

- ❖ Wherein said nonvolatile memory apparatus controls moving said threshold voltage of one nonvolatile memory cell to within one of threshold voltage ranges indicating said program state, and keeping said threshold voltages of remaining nonvolatile memory cells of ones of said nonvolatile memory cells within said threshold voltage range indicating said erase state, in said operation in response to said program command.

- ❖ Wherein said nonvolatile memory apparatus controls moving said threshold voltage of one nonvolatile memory cell to within one of threshold voltage ranges indicating said program states according to data, and keeping said threshold voltages of remaining nonvolatile memory cells of ones of said nonvolatile memory cells, in said operation in response to said program command.
- ❖ Wherein in an operation in response to said read command received from said command terminal, said nonvolatile memory apparatus reads data from ones of said nonvolatile memory cells, is capable of transferring data to said first volatile memory, and serially outputs data from said first volatile memory via said data terminal in response to said clock signal, and wherein in an operation in response to said program command received from said command terminal, said nonvolatile memory apparatus receives data in said first volatile memory via said data terminal in response to said clock signal, transfers data from said first volatile memory and writes data to ones of said nonvolatile memory cells.

Conclusion

9. When responding to the Office action, Applicants are advised to provide the Examiner with line and page numbers of the application and/or references cited to assist the Examiner in the prosecution of this case.

10. Any inquiry concerning this communication or earlier communications from

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the Examiner should be directed to Michael T. Tran whose telephone number is (571) 272-1795. The Examiner can normally be reached on Monday-Thursday from 7:30-6:00 P.M.

11. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1650.



Michael T. Tran
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September 15, 2004